

Communication

New APHIDIDAE found in Egypt

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INTRODUCTORY NOTE

The Aphides described here were collected in and near Cairo by Mr. F. C. Willcocks, whose careful colour notes from living specimens are included in the descriptions of the new species.

Fourteen new species are described and one new genus.

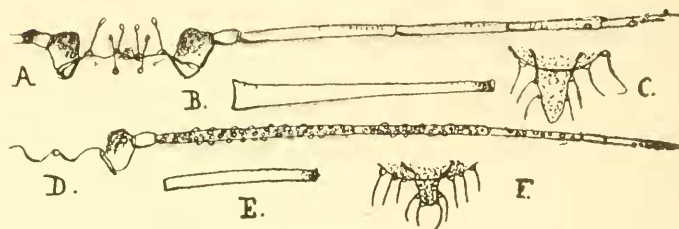
Some records of other species, some new to Egypt, are also recorded.

Capitophorus cynariella nov. sp.

Apterous viviparous female :

Green to pallid green, apices of antennae, tibiae and cornicles dusky; tarsi dusky. Antennae shorter than body. Eyes reddish-black. Apex of proboscis black. Head with numerous, rather long capitate hairs; body with scattered capitate hairs. Basal segment of

antennae much larger than second and gibbous; second cylindrical; 3rd longer than 4th; much shorter than 6th; 4th a little longer than 5th; 5th with the usual sub-apical sensorium; flagellum of 6th long,



Capitophorus cynariella nov. sp.—A. Head of apterous ♀; B. Cornicle; C. Anal plate and cauda; D. Head and antenna of alate ♀; E. Cornicle; F. Cauda and anal plate.

longer than 4 + 5. The pale proboscis is rather narrow and reaches just past the second coxae. Cornicles long, thin, cylindrical, much longer than 3rd antennal segment, slightly expanding basally, reaching nearly to the level of the cauda. The projecting cauda is small, acuminate, finely spinose and with the few hairs arising from rather large mamillae. Anal plate very finely spinose, with a few hairs arising from rather prominent processes. The segments before the anal plate with rather long capitate hairs. Tibiae and tarsi with short spine like hairs; legs rather delicate.

Length : 1.3 — 1.7 mm.

Alate viviparous female :

Head blackish; eyes deep red; antennae black;

pronotum yellowish with black collar or greenish, heavily tinged with ochreous and the collar again black. Mesothorax black with lateral ochreous or greenish-ochreous areas; abdomen yellowish-green with deep emerald green marks at base of the abdomen and a very conspicuous dark dorsal area; three lateral spots either dusky or dark emerald green on the abdomen in front of the cornicles and a similar dusky area at base of the cornicles; other dusky or emerald green areas as seen in the figure. The long cornicles are pale, with dusky apices. Legs with femora ochreous to smoky ochreous, darkened at the apices, tibiae ochreous tinged with dusky brownish, apices dark. Tarsi dark. Wings with smoky costa; cubitus yellowish; stigma faintly smoky. Antennae as long as the body; 1st segment longer than 2nd and gibbous; 3rd considerably longer than 4th, but not so long as 5th, with 58-160 small round sensoria over its whole length; 4th a little longer than 5th, with 41-50 sensoria; fourth with 8-10 sensoria; flagellum of 6th long. The long, thin, cylindrical cornicles about as long as the fourth antennal segment. Cauda small, triangulate, finely spinose, with two long hairs each side towards apex and a dorsal sub-apical one. Anal plate rounded with several long hairs on posterior border arising from marked papillae; finely spinose. Proboscis reaches to 2nd coxae. Tibiae with fine hairs.

Length : 2 — 2.2 mm.

FOOD PLANT : Globe artichoke (*Cynara scolymus*).

LOCALITY : Gizeh (Egypt), 1.11.1916.

Observations : Described from two apterous fe-

males and several alate females taken by Mr. Willcocks on the underside of the leaves of the globe artichoke. It does not agree with any described *Capitophorus*. Mr. Willcocks describes the *nymph* as follows:— "Pale yellowish-green; head paler than rest of body. Eyes deep red. Antennae and legs: pale glassy greenish. Cornicles pale or faintly greenish. Apex of abdomen yellowish-green. Conspicuous feature, the emerald green markings.

Myzus persicae Sulzer

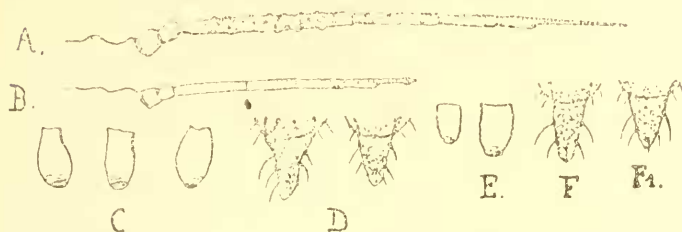
1. On May (*Crataegus*) at Heliopolis, near Cairo 11.IV.16. — One alate ♀ and one apterous ♀.
2. On *Antirrhinum*s at Cairo, 15.III.18.
3. On *Cinerarias*, Gizeh (Egypt) 12.III.16.

Hyalopterus obscurus nov. sp.

Apterous viviparous female :

A small rather shuttle-shaped species with very short antennae and a very large cauda in proportion to size of insect. Colour greenish or yellowish green; some specimens practically concolourous, others with head and thorax more ochreous than green. The abdomen is marked here and there with emerald green irregular blotches and in some specimens the abdomen is distinctly mottled with emerald green. Eyes dark. Antennae green; apex of joints 5 and 6 smoky. Legs greenish or yellowish-green; tips of tibiae dusky, tarsi

dusky. Cauda very large, quite pale or may be faintly yellowish or greenish, but paler than colour of abdomen. Cornicles short and thick, greenish with dusky apex. Skin reticulate. Antennae very short, not quite



Hyalopterus obscurus nov. sp. — A. Head and antenna of alate ♀; B. of apterous ♀; C. Cornicles and D. Cauda of alate ♀; E. and F. of apterous ♀.

half the length of the thorax; of 5 segments, but in one the 3rd is constricted; the basal segment larger than 2nd; 3rd nearly as long as 4+5; 4th about as long as basal area of 5th; the flagellum of 5th slightly shorter than flagellum. Proboscis reaching nearly to or to the 2nd coxae. Cornicles very short, gradually tapering to apex. Cauda long, but not quite twice as long as the cornicles; with two hairs each side. A few hairs on the tibiae.

Length : 1.5 — 1.8 mm.

Male viviparous female :

Head black. Antennae black. Eyes deep red. Prothorax ochreous green; collar dusky; tips of tibiae and

the tarsi dusky. Abdomen green, with small dull emerald green blotches. Cornicles smoky. Antennae much shorter than body, basal segment wider but no longer than the 2nd; 3rd as long as 6th and about twice as long as fourth, with 25 - 30 sensoria over its whole length; 4th a little longer than 5th, with 5 - 8 small sensoria; 5th rather shorter to the same length as the basal area of the sixth; flagellum of 6th twice as long as basal area. Cornicles small, pale, not so long as the cauda, somewhat swelling towards the apex. Cauda bluntly acuminate with two hairs each side and one sub-apical one; finely spinose. Anal plate rather small, rounded with a few long hairs. Legs moderately long and narrow with rather widely disposed stiff hairs on the tibiae. Wings normal. Proboscis not quite reaching to 2nd coxae.

Length : 1.5 - 2 mm.

FOOD PLANT : Fennel (*Foeniculum vulgare dulce*)

LOCALITY : Gizeh (Egypt), IV.18 (F. Willcocks).

Observations : Described from several females found in company with and mounted in balsam with *Cavariella aegopodii* Scopoli.—Mr. Willcocks speaks of it as a much smaller species than the *Cavariella*. Its exact generic position may be in doubt, but it most nearly approaches *Hyalopterus*, in which I have placed it provisionally.

***Cavariella aegopodii* Scopoli**
Ent. Carn., 137 (1763)

On Fennel, Gizeh (Egypt) IV.18, F. Willcocks.

Numerous alate ♀♀ and some apterae which agree quite well with what I have taken to be Scopoli's species. The Fennel *Cavariella* found in England *C. faeniculella* is quite distinct, the alate ♀ sensoria on segment III of the antennae being much more numerous in *faeniculella*.

Aphis cistiella nov. sp.

Alate viviparous female :

Head and antennae black. Pronotum dark green; collar black; mesothorax dark green with black lobes. Abdomen dark green much mottled with lighter green. Eyes deep red. Cornicles and cauda black. Legs, 1st and 2nd femora pale yellowish-brown to brownish ochreous; tibiae ochreous with black tips and tarsi all black. Cubital vein faintly greenish; wing insertions greenish; stigma smoky, lower margin greenish; oblique veins dusky. Some specimens show indications of transverse sepia bars on the abdomen. Antennae shorter than the body; basal segment wider but same length as 2nd; 3rd a little longer than 4th; not so long as 6th, with 5-8 sensoria in a line along whole length; 4th about same length as 5th; the latter with usual sub-apical sensorium; 6th with basal area a little more than $1/2$ the 5th, the flagellum a little more than three times length of base. Proboscis not quite reaching to 2nd coxae. Cornicles thick, cylindrical, expanding basally, rather short, about as long as the 4th antennal segment, imbricated. Cauda about half the length of the cornicles, spinose, with three

hairs each side. A marked papilla each side of pronotum, one between mid and hind legs and one between cornicles and cauda. Some smaller papillae also on abdomen. Tibiae hairy.

Length : 1.7 - 2 mm.

Apterous viviparous female :

Dark bronzy-green, reddish-brown to almost black; apical margin of apical segments greenish; skin shiny, reticulate, in the polygonal areas a central spot may or may not be visible. Antennae with segments 1 and 2 same colour as head; 3 and 4 pale or faintly ochreous; 5 pale, with smoky apex; 6 smoky. Eyes dark red-brown. Cornicles black. Cauda black, greenish at base. Femora with basal half pale ochreous; apical half dusky; tibiae pale ochreous; tips black; tarsi black. Basal segment of antennae larger than 2nd; 3rd longer than 4th, nearly as long as 5th; 4 and 5 about equal; 6th with basal area half as long as the flagellum; shorter than 5th; antennae scarcely half the length of the body. Proboscis narrow, reaching to nearly the 2nd coxae. Cornicles cylindrical, slightly expanding basally, from the length of the 3rd antennal segment to $\frac{2}{3}$ its length, imbricated. Cauda about 1.2 the cornicles, spinose, with three hairs each side. Anal plate black and spinose with a few hairs. A marked papilla each side of pronotum and one between mid and hind legs.

Length : 1.8 - 2.2 mm.

FOOD PLANT : Gum Lac (*Butea frondosa*).

LOCALITY : Gizeh (Egypt), 4.V.18.

Observations : A somewhat obscure species coming in the *runicis* group. The cornicles are rather short and thick and the cauda about half their length with only 3 hairs each side.

Aphis genistae Scopoli (non Kalt)
Ent. Carniolica, 139, (1763).

Alate viviparous female :

Head dull black. Eyes dark red-brown. Pronotum greenish with black collar; mesonotum black. Abdomen so dense a green as to be black to the naked eye — shiny and reticulate. Antennae with segments 1 and 2 black; base of 3 ochreous, rest dusky; 4, 5 and 6 smoky. Legs with femora dusky; 1st rather paler than 2nd and 3rd, especially basal half, which tends to ochreous; tibiae dirty pale yellowish, with black tips; tarsi black. Antennae shorter than body; 1st segment larger than 2nd; 3rd longer than 4th, not quite so long as 5th, with 7-10 sensoria of unequal size over most of its length; 4 and 5 about equal in length; 6th with basal area large; flagellum only twice its length; segments 3-6 imbricated; proboscis reaching to 2nd coxae, apical segment acuminate. A large papilla each side of pronotum and one prominent one between cornicles and cauda; other smaller abdominal ones. Cornicles about as long as 3rd antennal segment; cylindrical, expanding basally, imbricated, not reaching nearly to the cauda. Cauda rather more than half the length of the cornicles, much constricted near base which is large, spinose, 4 hairs

each side. The black anal plate spinose, large, with two prominent hairs each side of cauda; femora and tibiae hairy.

Length : 2 - 2.3 mm.

Apterous viviparous female :

two prominent hairs each side of cauda, femora and abdomen black; skin markedly reticulate — there appears to be some greenish colouration. Antennal segments 1 and 2 colour of head; 3 ochreous, now and then with dusky apex; 4 similar; 5 ochreous with dusky apex; 6 all dusky. Legs with 1st femora ochreous shading into dusky brown; 2nd and 3rd femora dusky, pale at base; tibiae pale ochreous, with black tips; tarsi black. Under low power lens a dusky grey or slaty hue over the back due to a waxy bloom. Basal segment of antennae larger than 2nd; 3rd longer than 4th, but not quite so long as the 6th; 4th slightly longer than 5th; basal area of 6th half the length of the flagellum. A marked papilla each side of pronotum, one between the mid and hind legs, one between cornicles and cauda and smaller ones on sides of abdomen. Cornicles thick, cylindrical, expanding basally, imbricated, about as long as 3rd antennal segment, not projecting beyond the cauda. Cauda large, more than half the length of the cornicles, almost cylindrical, but broadly expanding at the base, spinose, with 5 hairs on each side; anal plate large, black, spinose, with two long hairs each side of cauda and some

smaller ones. Proboscis reaching to or just beyond the 2nd coxae.

Length : 2 - 2.2 mm.

FOOD PLANT : *Genista* sp.

LOCALITY : Gizeh (Egypt), 20.IV.18 and Heliopolis 11.IV.16.

Observations : Easily distinguished by the large projecting cauda. It also occurs in England and Continental Europe. I see no reason why this should be otherwise named — Scopoli's short description would apply to it. Kaltenbach's *Aphis genistae* with its very short cornicles is quite distinct and consequently will have to be renamed.

Aphis leguminosae Theobald

Bull. Ent. Res., VI, pt. 11, 121, fig. 16 (1915).

Alate and apterae on Broad Beans, French Beans and ? *Solanum nigrum*, growing amongst them. 3 - 20.IV.1918 at Ghezireh, Cairo (F. Willcocks); Alexandria 9.V.18 on French Beans and weeds in bean field; on Vetches, Gizeh, 12.III.18.

Aphis pomi De Geer

On Hawthorn (*Crataegus*) at Heliopolis, near Cairo, 11.IV.16. Alate female and apterae.

Aphis nerii Boyer de Fonscolombe
Ann. Soc. Ent. Fr., x, 179 (1841)

On Oranges, especially the young growths where they were breeding in numbers. Gizeh, 8.III.19 (F. Willecocks) (Vide previous report).

Aphis gossypii Glover
Rept. Comm. Agri. U.S.A., 1876, 36 (1877)

On Pot Violets in Cairo, 28.III.1918, apterous and alate ♀♀. The apterae dark in colour, to the naked eye shiny black to dark bottle-green; skin shiny not highly polished and more or less reticulate; in many specimens the dark bottle-green is mottled with paler bottle-green areas. Cauda green. Cornicles black. The alate females have blackish head; pronotum greenish with dark collar; mesothoracic shield blackish, sides greenish. Abdomen bottle-green mottled with light and dark bottle-green. Some of the alatae show 1-3 sensoria on segment 4 of the antennae, others are normal.

Aphis acori nov. sp.

Alate viviparous female :

Head, antennae and thorax black. Abdomen dark bottle-green, median area in some specimens obscure luteous; there are also lateral dusky areas. Cornicles black. Legs yellowish, with dusky knees; tibiae dark

at apex; tarsi dark also; 2nd and 3rd femora shaded. Cauda dark. Antennae nearly as long as the body; basal segment much larger than 2nd; 3rd longer than 4th, but much shorter than 5th, with 14 - 16 sensoria, mainly on one side and reaching to the apex; 4th a little longer than 5th, with 4 - 6 round sensoria; 5th with 0 - 1 sensoria and the usual sub-apical one; flagellum of 6th about as long as 4 + 5 and its basal area. Proboscis not quite reaching to the 2nd coxae. Cornicles cylindrical, rather thin, a little longer than 4th antennal segment, imbricated, not reaching to the cauda. Cauda rather more than $\frac{1}{3}$ the length of the cornicles and rather thicker, with two hairs each side, finely spinose. The dark anal plate rather flattened, spinose, with a few hairs. A marked, rather narrow papilla between the cornicles and cauda on each side.

Length : 1.7 mm.

Apterous viviparous female :

Black to naked eye or low power lens, actual colour very dark olivaceous or bottle-green, so dense in full grown females as to appear dull black, the skin not polished. Head, thorax and abdomen practically unicolourous. Antennae with segments 1 and 2 same colour as head; 3rd pale just at base, remainder black; other segments black. Eyes dark reddish-brown. Cornicles black. Cauda same colour as body, if anything rather paler. The last segment of abdomen inclined to be pale greyish, with a broad black band across it. Legs pale or smoky; knees dusky; apices of tibiae dusky; tarsi dark. Antennae not quite

so long as body; basal segment larger than 2nd; 3rd longer than 4th, but not nearly so long as 6th; 4th a little longer than 5th; flagellum of 6th long, longer than 4+5. Proboscis reaching well past 2nd coxae. A papilla each side of the pronotum. Cornicles rather long, nearly as long as 3rd antennal segment, cylindrical, slightly expanding basally, imbricated, not reaching to the cauda. Cauda prominent, not quite $\frac{1}{3}$ length of cornicles, slightly constricted near base, spinose, with two curved hairs each side and a single sub-apical one. Anal plate rather flattened, spinose, with several hairs. A few hairs on head and antennae. Femora and tibiae hairy.

Length : 1.7 mm.

Nymph :

Head olivaceous. Antennae with segments 1 and 2 same colour as head, but 1st darker than 2nd; 3rd pale at base, remainder dusky. Eyes dark reddish-brown. Pronotum same colour as head, but slightly paler; mesothorax and base of wing pads greyish-green, paler than head; apices of wing pads dusky. Median area of mesonotum obscure yellowish or brownish green. Legs dusky, with shaded knees at apex of tibiae; tarsi dark. Abdomen uniform dark olivaceous but not so dark as in apterous female. Cornicles black. Apex of abdomen same colour as rest of abdomen.

FOOD PLANT : Sedge (*Cyperus longus*).

LOCALITY : Ghezireh (Egypt), 1.1916.

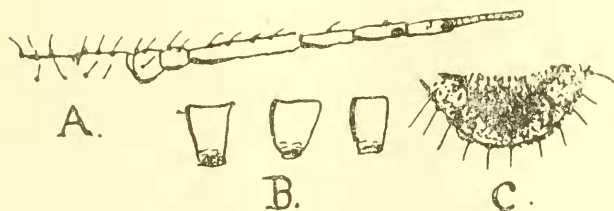
Observations : Described from one alate ♀ and

two apterous ♀♀, together with another species described here. The only aphides recorded from this host plant are *B. nymphaeae* Linn. and *Cerataphis lantanae* Boisduval. Another very marked species with five segments to the antennae in the alate female is being described from Egypt by Mr. F. Laing.

Anuraphis foeniculus nov. sp.

Apterous viviparous female :

Green; head darkened; apices of antennae smoky; two first segments dusky; cornicles and cauda dark; legs same colour as body; apices of tibiae and tarsi dusky. Antennae less than $\frac{1}{3}$ length of body, of 6 segments, basal one wider but no longer than 2nd; 3rd longer than 4th, not quite so long as 6th; 4th a little longer than 5th; basal area of 6th a little shorter than 5th, the flagellum about three times length of



Anuraphis foeniculus nov. sp., apterous viviparous ♀
— A. Head and antenna; B. Cornicles; C. Cauda and anal plate.

basal area; a few rather long hairs on the 1st and 2nd segments, also on 3rd and one on 4th. Head with rather long hairs. Eyes dark. Proboscis dusky at apex, in some reaching to 3rd coxae, in others between 2nd and 3rd. Abdomen with numerous short, rather stiff hairs, small lateral papillae and small dusky pigmented areas. Cornicles short, about as long as the 4th antennal segment, cylindrical, some expanding basally. Cauda short and broad, shorter than cornicles, spinose, with two hairs each side; anal plate rather large, rounded, spinose, with many long hairs. Legs rather short and moderately thick.

Length : 1.7 to 1.9 mm.

FOOD PLANT : Fennel.

LOCALITY : Gizeh (Egypt), 25.IV.18.

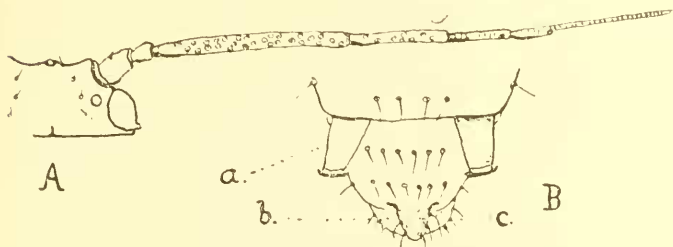
Observations : A small marked species described from balsam mounts. It occurred on the Fennel with *Hyalopterus obscurus* and *Cavariella wogopodii*. The body is markedly hairy and the lateral papillae are small. I know of no *Anuraphis* similar to it.

***Anuraphis cinerariae* nov. sp.**

Host : viviparous female :

Head very dark olivaceous brown to black. Pronotum green or yellowish-green with a black or dusky collar. Meso and metanotum black or brownish-black. Abdomen green; a dusky or dusky green area on median part of the abdomen and some dusky spots

at the base. Eyes very dark red. Antennae black. Legs with basal part of femora ochreous or ochreous tinged with green. Apical part dark; tibiae a dirty or brownish ochreous, dark at apex; tarsi dark. Cornicles dusky. Cauda green. Wing insertions yellowish green; cubitus tinged with yellowish or yellowish-



Anuraphis cinerariae nov. sp., alate viviparous ♀. —
 A. Head and antenna; B. Cauda b., anal plate a. and cornicles c.

green; veins to stigma dusky. Antennae shorter than body; basal segment wider but no longer than 2nd; 3rd much longer than 4th and about as long as 6th with 10-20 sensoria; 4th longer than 5th with 4-6 sensoria; 5th with usual sub-apical one; basal area of 6th more than $1/2$ the 5th, the flagellum about four times as long. Proboscis reaching to 2nd coxae. Cornicles thick, rather short, about as long as 5th antennal segment, cylindrical, slightly expanding basally. Cauda small, about one-third the length of the cornicles, finely spinose, with a few hairs; anal plate rounded with a few hairs. Apex of abdomen, anal plate and cauda projecting well beyond the cor-

nicles; short hairs on the body, longer ones on apical area.

Length : 1.5 - 2 mm.

Apterous viviparous female :

“Ochreous or yellowish-green and some specimens may be found which are orange or almost reddish or pale reddish. Skin characteristic, it is roughened and shiny. Eyes a very dark red. Antennae pale and glassy in appearance; apices of segments 5 and 6 pale smoky. Legs pale or a pale ochreous, tarsi dusky. Cornicles same colour as body, but may be shaded towards and at the apex. Body sparsely covered with stiffish hairs, most marked on apical part of abdomen” (Willcocks). No specimens sent.

Nymph :

“More ochreous grey than apterous female. Head an obscure greenish-yellow. Eyes very dark. Antennae with segments 1, 2 and 3 pale, 4, 5 and 6 smoky. Cornicles smoky. On the thorax are two parallel emerald green lines and a median line of the same hue on the dorsum of the abdomen.” (Willcocks).

FOOD PLANT : Cinerarias.

LOCALITIES : Gizeh (Egypt), III.1918; Stirkohe, Wick. N.B., 16.VI.22 (D. J. Jackson).

Observations : Attacks the leaves and terminal part of the stem and the stem itself — the leaves and the stem curl up forming a tight head or knot —

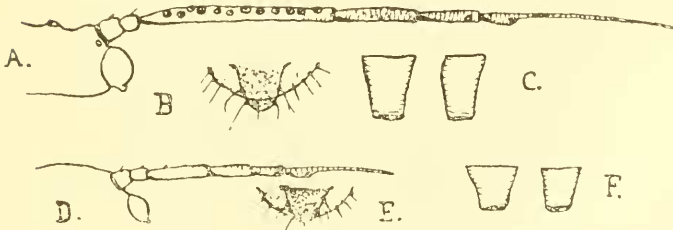
almost a "gall." A very distinct *Anuraphis*, easily identified by the projecting apex of the abdomen with its longish apical hairs. Mr. Willcocks only sent me the alate females. Specimens have also been sent me by Miss Jackson from Scotland.

***Anuraphis cyani* nov. sp.**

Alate viviparous female :

Closely related to *A. cinerariae*, but easily distinguished by the antennal structure and cornicles.

Antennae shorter than the body; basal segment wider but no longer than the 2nd; 3rd much longer than 4th and as long as 6th, with 12 - 13 pale sensoria; 4th much longer than 5th with no trace of sensoria; 5th with a large outstanding sub-apical sensorium; basal area of 6th a little more than half the 5th, the flagellum more than 4 times as long as basal



Anuraphis cyani nov. sp. — A.-C. Alate viviparous ♀; D.-F. Apterous viviparous ♀.

area, with very marked imbrication, almost annulation. Proboscis reaching to second coxae. Eyes large, a few hairs on head. Cornicles dark, short and thick. Apex of abdomen as in *A. cinerariae* projecting well beyond the cornicles. Cauda small and blunt about half the length of the cornicles, with 3 hairs one side, two the other; anal plate rounded with several hairs. Hairs on posterior part of body as in *A. cinerariae*, but the cornicles are as long, not longer than the 5th antennal segment.

Length : 1.5 to 2 mm.

Apterous viviparous female :

Yellowish-green; apices of antennae, legs, proboscis and cornicles dusky. Antennae about $\frac{1}{3}$ length of the body; basal segment larger than 2nd, both dusky; 3rd longer than 4th, but shorter than 3rd; 4th longer than 5th; basal area of 6th less than a 4th the flagellum; sensoria on 5th and 6th normal. Proboscis reaching to second coxae, rather narrow. Cornicles thick expanding basally, short, a little less than the fourth antennal segment. Cauda small, rather flattened, pale, slightly projecting from apex of abdomen, with two hairs each side; anal plate broad with several long hairs. Apex of abdomen projecting well beyond the cornicles. Dorsum of abdomen with transverse rows of hairs.

Length : 1.4 - 1.8 mm.

FOOD PLANT : Cornflower (*Centaurea cyanus*).

LOCALITY : Gizeh (Egypt), 23.IV.17.

Observations : Described from two alate females and several apterae. A somewhat obscure *Anuraphid* but with marked antennal characters and lines of hairs on the abdomen.

Anuraphis aplifolia nov. sp.

Alate viviparous female :

Green; head darkened; a dark pronotal band; thoracic lobes dark; abdomen with a large dark dorsal patch posteriorly. Antennae, cornicles and cauda and anal plate dark; dark lateral abdominal patches; legs darkened, except base of femora and part of the tibiae. Antennae not so long as body; basal segment larger than 2nd; 3rd twice as long as 4th and nearly as long as 6th, with 68 - 75 sensoria giving with the 4th a densely tuberculate appearance; 4th considerably longer than 5th with 20 - 24 sensoria; 5th with 0 - 4 sensoria and one large sub-apical one; 6th with basal area from $1/2$ to $2/3$ length of 5th; flagellum longer than 4+5. Proboscis rather broad reaching nearly to the 2nd coxae. Cornicles rather short and thick, cylindrical, slightly tapering towards apex, about as long as 5th antennal segment, imbricated. Cauda very small, scarcely projecting beyond the anal plate, spinose, with two curved hairs each side and one sub-apical one. Anal plate rounded, broad and flattened, spinose, with several hairs. The apex of the abdomen somewhat protruded and passing well beyond the level

of the cornicles. Legs with the tibiae with fine hairs. Wings large.

Length : 2 mm.

FOOD PLANT : Celery (*Apium graveolens*).

LOCALITY : Gizeh (Egypt), 17.III.18.

Observations : Described from three perfect alate females. The apex of the body is markedly protuberant and the antennae have a tuberculate appearance owing to the numerous sensoria on segments 3 and 4.

Acaudus calami nov. sp.

Apterous viviparous female :

Green, with darker cornicles. Antennae dusky except base of 3rd segment. Eyes reddish-brown. Antennae a little shorter than body, of six segments; basal segment much larger than 2nd with a slight projection on inner face; 3rd longer than 4th, less than $\frac{1}{3}$ of the 6th; 4th about same length as 5th; 5th not quite twice as long as basal area of 6th, with normal sub-apical sensorium; 6th as long as $4+5+6$; its flagellum about as long as $1+2+3$, a few stiff hairs on all the segments. Proboscis reaching to 2nd coxae. Cornicles nearly as long as 3rd antennal segment, cylindrical, expanding basally, imbricated. Cauda very small, rounded, spinose, with four hairs. Anal plate large, hidden under abdomen, more or less quadrilateral, spinose. A small papilla each side of pronotum and one between the meso and metathoracic legs

and traces of one near the cornicles. Legs rather short and thick; femora with a few, the tibiae with many hairs which are rather long.

Length : 1.4 - 1.6 mm.

FOOD PLANT : Sedge (*Cyperus longus*).

LOCALITY : Ghezireh (Egypt), I. 1916.

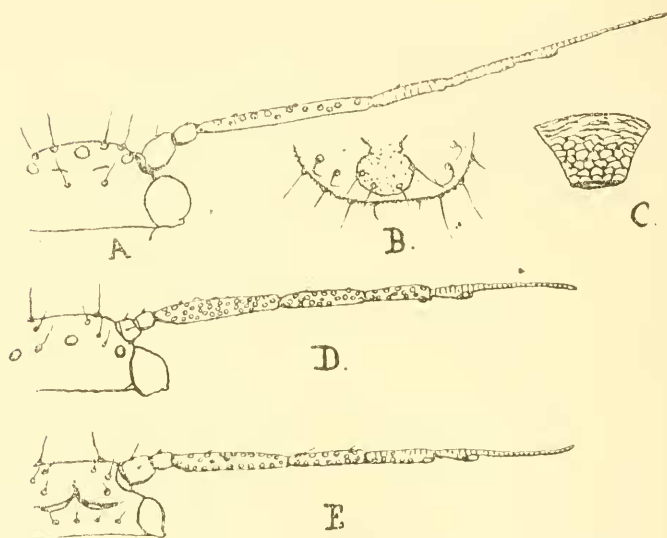
Observations : Described from three apterous ♀♀ taken with *Aphis acori*. The shape of the small cauda places it I think in the genus *Acaudus* where I have placed it provisionally.

***Chaitophorus inconspicuus* nov. sp.**

Apterous viviparous female :

Very pale whitish-green, almost colourless in some lights and in some individuals, when magnified. Head pale, faintly yellowish to yellowish tinged with brown. Thorax colour variable, whitish-green or a pale yellowish-brown, with a median somewhat V-shaped or sometimes a rectangular area mottled with green and obscure purplish. Abdomen pale whitish-green, lightly mottled with emerald green and the red eyes of the embryos; in some the abdominal markings are very distinct and not mottled, showing four large spots and in the middle of them a smaller one and two pairs of lateral ones behind. Antennae with basal segment same colour as head; 2nd and 3rd clear glassy; 4th has apical half smoky; 5th smoky. Eyes very dark red or reddish-brown. Hairs

on head pale. Cauda same colour as abdomen. Cornicles pale. Legs clear glassy; tarsi dark at apex. Antennae not half the length of the body; basal segment



Chaitophorus inconspiculus nov. sp. — A.B.C. Alate viviparous ♀; D. Alate ♂; E. Apterous ♂.

larger than 2nd; 3rd longer than 4th, about as long as 4+5, not quite so long as 6th; 3-6 imbricated. Head with long fine hairs. Proboscis acuminate, reaching just past the 2nd coxae. Abdomen with long hairs, arising from marked papillae. The pallid cauda is knob shaped.

Length : 2 mm.

Alate viviparous female :

Head dark ochreous to olivaceous—to naked eye and under low power lens it appears black. Prothorax olivaceous pale on anterior and posterior margin; mid-thoracic lobes olivaceous. Abdomen pallid with some emerald green specks or spots at base. Cornicles pale or faintly yellowish. Cauda pale. Eyes dark red. Antennae with segments 1 and 2 faintly smoky; 3 and 4 pale; 5 pale with smoky apex; 6 pale smoky. Legs colourless, glassy; tarsi faintly shaded. Wings with pale insertions; costa pale; cubital vein pale, faintly tinged with yellow in some specimens; stigma pale, but costal margin and lower margin of stigma faintly smoky; oblique veins dusky. Antennae not half the length of the body; basal segment larger than 2nd; 3rd nearly twice as long as the 4th and nearly as long as the 6th, with 14-18 round sensoria; 4th about as long as 5th with 0-4 sensoria; 5th with a large sub-apical one; basal area of 6th more than half the 5th, the flagellum nearly 3 times its length. Hairs on head long and simple. Stemmata marked. Proboscis reaching about half way between 1st and 2nd coxae. Cornicles very short and truncate, with marked reticulation passing into irregular elongate form at base. Cauda knob-shaped with four prominent long hairs. The abdomen in all the mounted specimens show a dark pigmented dorsal patch extending down to the level of the cornicles and a band somewhat paler and wider between it and the cauda.

Length : 2 mm.

Male :

Form a. — Alate. Head very dark olivaceous, almost black. Antennae as head, but base of 3rd segment paler. Pronotum greyish-green with broad black collar; mesothorax black. Abdomen pale greyish-green with blackish or very dark olivaceous transverse bars, more or less coalescent to form a conspicuous dark median area. Hairs pale. Eyes large, dark reddish-brown. Legs : 1st pair pale, tarsi smoky; 2nd and 3rd pale, tinged with smoky; tarsi smoky. Insertions of wings pale; cubitus and stigma just smoky; veins dark. Cornicles pale. Claspers greyish-green. Penis pale. Antennae about half the length of the body; basal segment a little wider, but no longer than 2nd, both dark; 3rd thick, much longer than 4th, about as long as 6th, with 32-40 small round sensoria; 4th a little longer than 5th with 15 - 18 small round sensoria; 5th with 8 - 10 very small sensoria and the normal sub-apical one; 6th with basal area $\frac{1}{3}$ the flagellum. Proboscis reaching between 1st and 2nd coxae. The short dusky cornicles are reticulate apically. Claspers small, tuberculate, dark. Penis protruded. Cauda small, knob-shaped.

Length : 1.7 mm.

Form b. — Apterous. Small, dark. Head dull black. Prothorax as head, but pale at neck. Meso and metathorax pale or obscure greyish-green with the median area blackish or dusky. Abdomen blackish. Cornicles black. In some apex of abdomen greenish. Hairs pale. Legs pale, tarsi dusky. Venter of abdomen greyish-green with black bars. In some the vertex of head is dusky. Antennae with 1st and 2nd

segments dusky, like head; 3rd pale at base; 4 and 5 dark smoky. Eyes large, dark or reddish-brown. Antennae not quite so long as the body, basal segment larger than 2nd; 3rd thick, much longer than 4th and nearly as long as 6th with 28-32 sensoria; 4th a little longer than 5th with 12-14 sensoria; 5th with 8-10 sensoria; base of 6th about half 5th and one-fourth the flagellum. Claspers dark. Penis pale. Hairs on head moderately long; on body long. Proboscis reaching to 3rd coxae. Cornicles very small and truncate.

Length : 1 mm.

Nymph :

Head yellowish, tinged with brown. Eyes very dark reddish. Antennae as head on 1st segment, 2nd pale and glassy; 3rd as 2nd; 4 same; 5 with basal half as 3, apical half smoky; 6 smoky. Prothorax same colour as head or it may be marked with a darkish or clouded triangular area — the apex of the triangle extending into the head. Mid-thorax pale whitish-green — wing buds same colour — in some the median part of thorax is of a darker shade than base of wings. Abdomen whitish-green with some emerald green markings. Cornicles pale. Legs glassy.

FOOD PLANT : White Poplar (*Populus alba*).

LOCALITY : Ghizeh (Cairo), 1 and 11, 1916, 1918.

Observations : An abundant species on the White Poplar. I cannot trace it to any known species. The

antennal ornamentation and body markings do not agree with any of the Poplar or Salix *Chaitophori*.

Lachniella thujafolia Theobald
Bull. Ent. Res., IV, 335 (1914).

Apterous females found on *Thuja orientalis* by A. Alfieri at Cairo in February 1918. The specimens mounted by Mr. F. C. Willcocks agree exactly with the types in my collection described from the Transvaal and Natal.

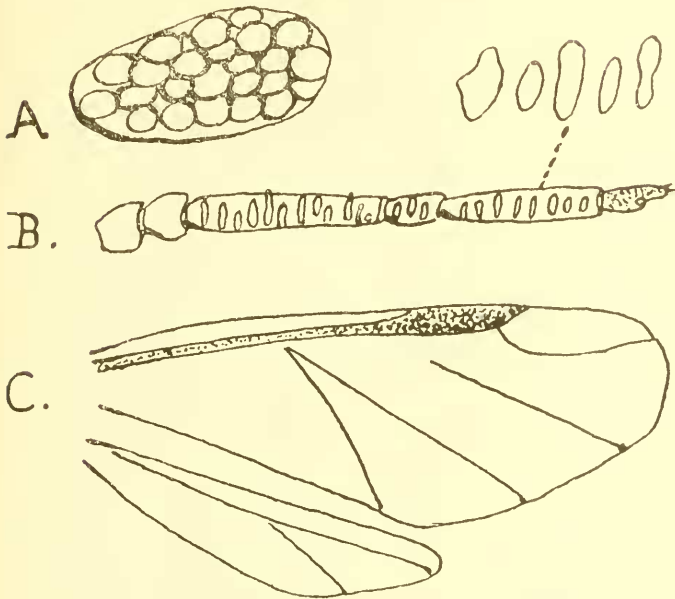
Tetraneura cynodontis nov. sp.

Alate viviparous female :

Head black. Pronotum dull sordid apricot; collar dark, thoracic lobes deep brown to black, brown in newly emerged specimens. Abdomen dull dirty apricot colour, with a good deal more brown than yellow in it. There are two rows of wax glands on the dorsum, one each side of the median line and a lateral row; from these glands long waxy, spunglass-like or woolly threads of a bluish or smoky blue colour are produced. Cornicles as dark rings. Legs ochreous with dark knees; tarsi pale, but dusky at apex.

Wings whitish when freshly emerged—later they become the usual translucent greyish tinge; cubitus yellowish; stigma pale but lower margin of it obscurely greenish; oblique veins yellowish. Antennae much shorter than head and thorax, of six segments;

1st and 2nd about equal; 3rd as long as 5th with 7-10 irregular transverse or elongate oval sensoria; 4th small, about the length of 1st, with 3-4 irregular



Tetraneura cynodontis nov. sp., alate viviparous ♀ —
A. Wax plate; B. Antenna; C. Wings.

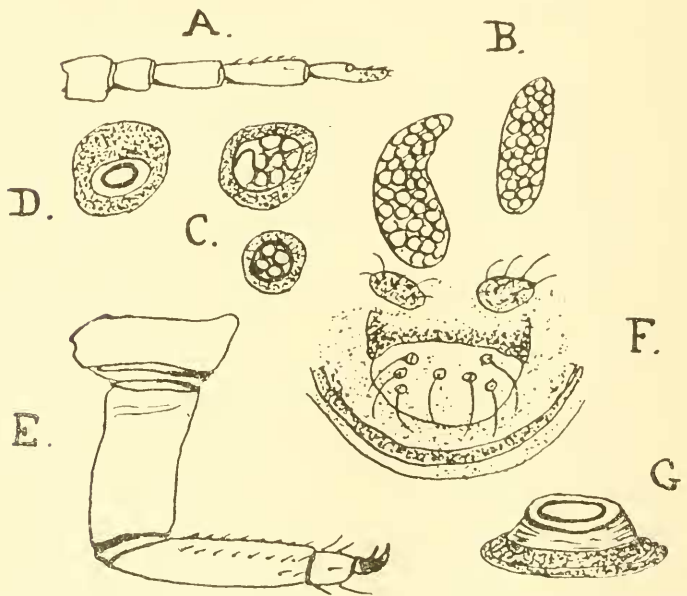
transverse sensoria; 5th with 8-10 irregular elongate oval sensoria; 6th about as long as 4th, with a short blunt «nail»; a few scattered hairs. Eyes large. Proboscis not quite reaching the 2nd coxae; apex with hairs. The legs are rather short and thick and with short fine hairs on the tibiae; tarsi of 2 segments. A

prominent pair of wax plates on the pronotum and another on the mesonotum; the abdominal ones decreasing in size posteriorly.

Length : 2.7 - 3 mm.

Apterous viviparous female :

Very globose. Pale brownish-buff to a decided buff-brown or pale brown. Head brown to dark brown,



Tetraneura cynodontis nov. sp., apterous viviparous ♀. — A. Antenna; B. Posterior wax plates; C. Anterior wax plates; D. Spiracle; E. Hind leg; F. Cauda and anal plate; G. Spiracle.

appearing blackish to the naked eye; may be covered with a waxy bloom, which gives a slaty-blue colour to the head. Eyes dark-brown and inconspicuous. Antennae translucent brownish. Pronotum brownish, and may be covered with a waxy bloom; mesonotum brownish-buff with two prominent sub-dorsal brown spots.

Metanotum and abdomen brownish-buff to brownish, never dark brown. Legs stout; claws dark. Cornicles simple rings. Wax glands fully developed. A certain amount of white wax may be secreted from the apical part of the body. Antennae short, not so long as head and thorax, of 5 segments; the 1st broader but no longer than 2nd; 3rd a little longer and narrower than 2nd; 4th the longest, about as long as 2+3; 5th about as long as 3rd, with a very short blunt nail, a few hairs on all the segments. Proboscis short and very thick, with a few short hairs. Legs very short and thick; tarsi of one segment; small stiff hairs on the femora and tibiae and also on tarsi; claws thick and short. Anal plate and cauda rounded, with some long hairs, curved at their apices. The cornicles slightly elevated. Wax plates and spiracles surrounded with darkened areas. The eyes have only three facets.

Length : 2.5 - 3 mm.

FOOD PLANT : Bermuda Grass (*Cynodon dactylon*) or Neguil Grass (Arabic).

LOCALITY : Gizeh (Egypt), 1.III.18.

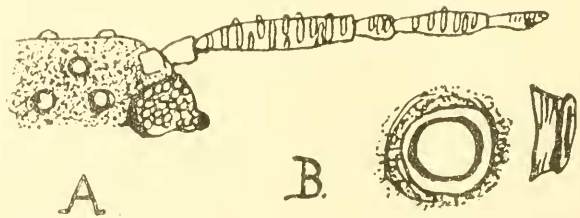
Observations : A very marked Tetraneurid which

occurs on the roots of the Bermuda grass, a plant which penetrates to a great depth in the soil and well adapted to dry regions. The Aphides are found on the succulent parts of the underground stems and may be found a considerable distance below the surface. It appears to be associated with ants. Described from three alate females and a number of apterae.

***Tetraneura aegyptiaca* nov. sp.**

Alate viviparous female :

Head black, shiny; vertex deeply depressed, on the margin of the depression two pale papillae (ocelli?). Eyes deep reddish-brown to red. On front of head between bases of the antennae two small conical shiny black tubercles. Antennae black, pale at the joints. Pronotum of a brownish-hue and the col-



Tetraneura aegyptiaca nov. sp., alate viviparous ♀.—
A. Head and antenna; B. Cornicle.

lar black. The prothorax sends out blue waxy filaments. Mesothorax with black lobes, shiny. Abdomen

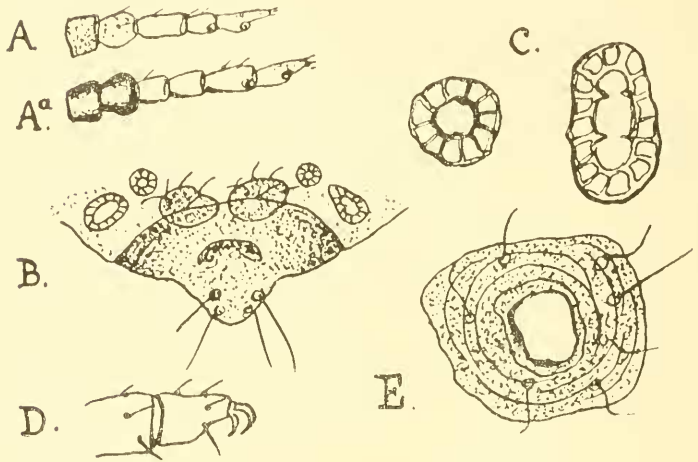
brownish with a median longitudinal dusky line and two others outside of it and indications of a third. Fore legs with basal half of femora pale ochreous, remainder dusky; tibia and tarsi dusky; 2nd and 3rd legs smoky to blackish. Wings with costa and oblique veins smoky; stigma almost clear; cubitus dusky. Antennae much shorter than head and thorax, of 6 segments; 1st rather smaller than 2nd; which is somewhat globular; 3rd the longest, as long as 4+5, with 11-13 broken and complete transverse sensoria; 4th small, about as large as 2nd, with 3 broken transverse sensoria; 5th shorter than 3rd, with 6 transverse sensoria; 6th a little longer than 4th, nail very short and blunt. Proboscis not reaching to 2nd coxae. Eyes large. Spiracles slightly raised. Legs rather thin, moderately long; tibiae with fine pale hairs.

Length : 2.7 mm.

ipterous viviparous female :

More or less pyriform or globose. Orange brown to brown; young forms more of a brownish-orange hue. Head dusky, sometimes mealy. Antennae smoky yellowish. Legs sordid yellowish. Eyes dark. Cornicles ringlike slightly raised. Cauda bluntly conical. The wax glands on the body produce bluish flocculent waxy filaments, in all stages. Antennae very short of 5 or 6 segments; when six as follows : 1st about same size as 2nd to a little shorter; 3rd — 6th much narrower than basal two; 3rd a little longer than 4th and about equal to 5th; 4th smaller than 2nd; 6th rather shorter than 5th to nearly its length;

a few hairs on 1, 2, 5 and 6, now and then on 3 and 4. Proboscis thick, reaching to 2nd coxae. Legs short and thick, scarcely projecting over the body; tarsi of one segment; a few spine like hairs on fe-



Tetraucera aegyptiaca nov. sp., apterous viviparous ♀. — A. Antenna; B. Apex of abdomen; C. Wax plates; D. Tarsus; E. Cornicle.

mora, tibiae and tarsi. Cornicles situated on large darkened raised area, which carries a few hairs. The conical cauda has four long hairs. Numerous wax plates on body of two types (fig. c), the lateral line of them rounded anteriorly, oval posteriorly and with marked internal projections in the later; the median pairs are round; two pairs of large ones between the

cornicles and cauda. Body with numerous hairs. A prominent large wax plate on each side of prothorax.

Length : 2.7 - 3 mm.

FOOD PLANT : *Panicum* sp.

LOCALITY : Ghezireh (Egypt), N. 1919.

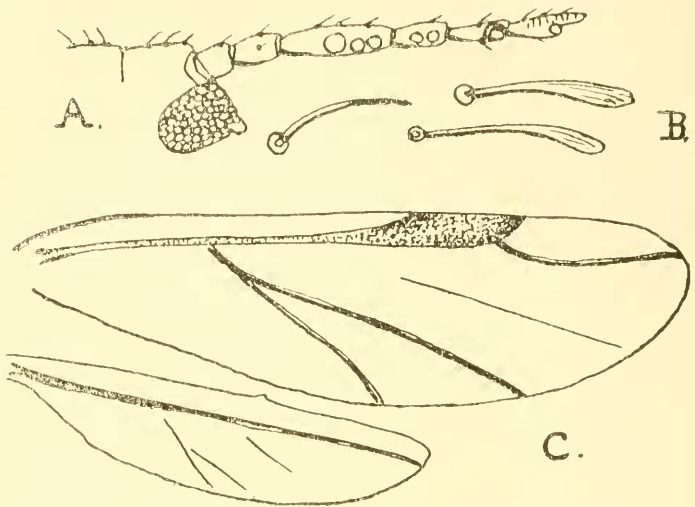
Observations : Described from five apterae and one alate female. Mr. Willcocks found it on the roots of a common grass *Panicum* sp. and states that it appears to be rare, anyway when he found it in October. The wax plates in the apterae are very characteristic.

***Geoica spatulata* nov. sp.**

Alate viviparous female :

Head, antennae and legs dull black; pronotum olivaceous with black collar; thoracic lobes black. Abdomen dusky olivaceous, with dusky transverse bars. The glands on the abdomen secrete bluish-white, bluish or smoke blue tufts of waxy filaments. Antennae much shorter than head and thorax of 6 segments; the 1st and 2nd about equal; 3rd the longest, with 3 to 5 round sensoria, 3 being large; 4th as long as or a little longer than 5th, with two large round sensoria; 5th with one large round apical sensorium; 6th a little longer than 5th, with a short blunt nail and a large sensorium at its base, all the segments with a few hairs. Eyes large, with large ocular process. Proboscis not reaching to the 2nd coxae. Hairs of the head slightly spatulate and curv-

ed. Body and thorax with many hairs, oar-shaped and some simple; spiracles slightly projecting, the bases



Geoica spatulata nov. sp., alate viviparous ♀. —
A. Head, antenna and eye; B. Squamae; C. Wings.

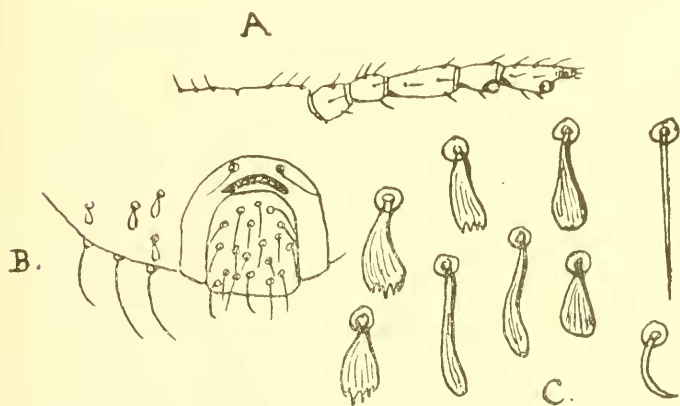
darkened. Anal plate and cauda rounded; hairy, hairs simple as on parts of the body. Legs moderately long; femora, tibiae and tarsi hairy. Wing venation typical of the genus, but erratic.

Length : 2 - 2.3 mm.

Apterous viviparous female :

Pallid buff to yellow to an apricot yellow.

Antennae and legs pale yellowish. Body adorned with marked spatulate hairs, except at apex where they are thick and spinose. Antennae short, of 5 segments, the two basal ones nearly equal; 3rd as long as to a little longer than the 5th; 4th the smallest; 5th with a very short blunt nail; a rather projecting sensorium at apex of 4th; that on 5th normal; all the segments hairy, the basal ones with long oar-shaped hairs. Proboscis thick, reaching to end coxae. Eyes moderate, with three facets larger than remainder. Legs rather short and thick with numerous spine like hairs, especially on the tibiae. Spiracles with thickened



Geotica spatulata nov. sp., apterous viviparous ♀. —
 A. Head and antenna; B. Cauda and anal process; C.
 Squamae of body.

chitinous bases. Cauda and anal plate rounded and with long thick hairs; darkened.

Length : 2 - 2.5 mm.

FOOD PLANT : *Panicum* sp.

LOCALITY : Gizeh (Egypt), X.18.

Observations : This very marked *Geoica* occurs on the roots of the grass mentioned. The apterous females are very marked owing to the numerous spatulate hairs on the body. In the alate female they are not noticeable but many are enlarged in an oar-shaped manner.

The wing venation seems subject to much variation and there are numerous minute glands on the abdomen.

Genus **ASIPHONELLA** nov. gen.

Cornicles absent as such. Antennae of alate female of 6 segments, the sensoria elongate oval; antennae of apterae of 6 segments, thin, the sixth the longest in the latter, as long as the 3rd in alatae; nearly half the length of base of 6th; cauda rounded. Wax plates on the body. Eyes sessile in the apterae, ocelli three only. Wings with the media of front pair simple; hind wings with media and cubitus present.

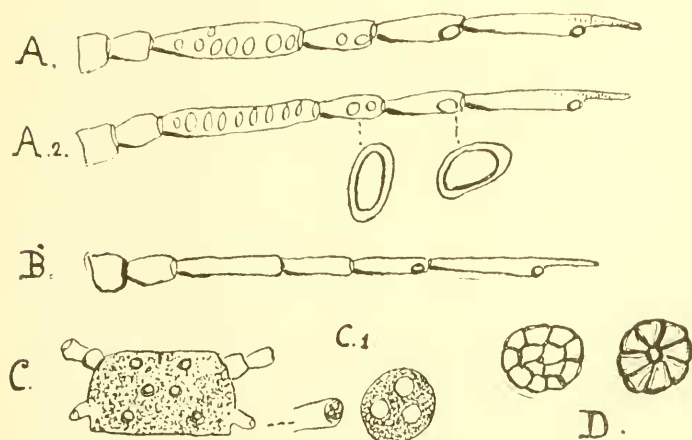
Root feeder on grass; also found on lower part of stems — in the crown of the plant.

Asiphonella dactylonii nov. sp.

Alate viviparous female :

Head and antennae black. Eyes very dark brown.

Pronotum greenish with some darker coloration; thoracic lobes blackish-brown to blackish. Abdomen dark-green. Legs black. Wings translucent silvery-grey; cubital vein and stigma blackish. Long filaments of a bluish wax are produced by the dorsal wax glands. Antennae not quite so long as head and thorax; 1st segment smaller than 2nd which is rounded apically; 3rd much longer than 4th, about as long as the 6th with 8-9 round to slightly elongate oval sensoria; 4th smaller than 5th, a little longer than 2nd, with two sensoria; 5th longer than 6th, about as long as its basal area, a single large sensorium near apex; 6th



Asiphouella dactylonii nov. sp. — A. A.♀. Antennae of alate ♀, two views; B. of apterous ♀; C. Head of alate ♀ and C.1. Enlarged eye and 3 apical facets; D. Wax plates on the abdomen.

4th smaller than 5th, a little longer than 2nd, with two sensoria; 5th longer than 6th, about as long as its basal area, a single large sensorium near apex; 6th

with the «nail» about half the length of the base and a large sensorium at its base; the sensoria have a double contour and the segments are rather thin. Eyes large. Proboscis short, only reaching just past the 1st coxae, rather thick. A small wax plate on each side of pronotum, a pair of small round ones on the dorsal area of the abdominal segments and a large one on each side of the abdomen on each segment. Cornicles absent. Cauda rounded, with very short, fine, hairs. Wings with media of fore pair simple and hind with media and cubitus present. Legs rather long, thin, the tibiae slightly expanding apically.

Length : 2.3 - 2.8 mm.

Apterous viviparous female :

Dull yellowish or light brassy-green to all green—colour varies much some being much greener than others; the dorsum of the abdomen tends to be greener than the thorax and head. Head greenish with the greater part of the dorsal anterior region pale sepia or dusky. Antennae sepia, but rather pale and translucent—practically smoky. Legs pale translucent sepia to smoky-yellow; tarsi smoky to dusky. Anal plate and cauda sepia. Spiracles dark. Antennae not quite so long as head and thorax, thin, of six segments; 1st wider but slightly shorter than 2nd; 3rd much shorter than 6th, about as long as 5th; 4th slightly longer than the 2nd; 5th with a small sub-apical sensorium; 6th as long as 4+5, its basal area twice as long as the blunt nail, sensoria normal.

Six wax plates on the head. Eyes small and of peculiar form, the three large facets being placed on a projection, resembling the stalked eye of the Crustacea. Proboscis short and thick, not reaching to the 2nd coxae, in some only just past the 1st coxae. The abdomen has four rows of dorsal wax plates. Cauda rounded with a few hairs. Legs rather short and moderately thick.

Length : 2 - 2.5 mm.

FOOD PLANT: Bermuda Grass (*Cynodon dactylon*).

LOCALITY : Gizeh (Egypt), 20.III.18.

Observations : Described from three alate females and a number of apterae. I cannot place it in any known genus. It most nearly approaches *Neoprociphilus* of Patch, but the antennae and the eyes of the apterae differ materially. The eyes of the latter are very peculiar; they consist of three facets only and are placed on a marked projection, like the sessile eyes of the Crustacea. The apterae feed on the Bermuda Grass below lumps of earth and Mr. Willcocks in his notes sent me says : «it may be found in similar situations on the banks of irrigation canals. It produces a quantity of bluish-white woolly matter. In the case of those individuals in which the waxy or mealy coat is intact the glands stand out as apparent punctures or round dimples on the dorsum».

The *nymph* stage is described by Willcocks as follows : «Head a pallid dirty ochreous ; ocelli of future winged individual visible as reddish spots. Eyes black, projecting, surrounded by a dusky area,

but reddish at the margins. Antennae glassy, faintly smoky. Thorax dirty yellowish-greenish. Wing buds dusky. Legs pallid dull ochreous; tarsi faintly smoky. Abdomen more of a greenish hue than thorax. The nymph may be mealy and also produces the long bluish filaments of wax from the glands »

NOTE. — Proofs of this paper were not submitted to the author, they were corrected in Cairo.